

Fuel-cell

The fuel-cell makes it possible to transform hydrogen into energy, but how does it work?

As you could read in the article about hydrogen it is possible to decompose materials. It is possible to decompose water through the process of electrolysis. In the process of electrolysis, two rods are hanging in a tank filled with water. One rod is from carbon, the other one is from zinc. Then, they put electricity on the rods. Through this process, the water is decomposed. The loose atoms are pulled towards the rods in a special way. The oxygen atoms going to the carbon rod and the hydrogen atoms going to the zinc rods. If you can put the atoms on the rod into a tube, then you get a tube with oxygen and a tube with hydrogen-gas. This is the solution for winning hydrogen gas from water.

In a fuelcell, this technique is used in a comparable way. Hydrogen and oxygen are transformed into so called ions, (little parts which have electric charge), the so called H^+ and OH^- ionen. These ionen come together through the tubes and the + and - ions respond with each other and so electricity is generated. The OH^- and H^+ ionen are coming together again as a H_2 molecule. This molecule is not an ion because the electric charge is neutral. The only emmision of the fuelcell is vapour. The only emmisions created by driving a hydrogen/fuel-cell-powered vehicle will be water. You can read about the application of a fuel-cell in the article about [application](#).